



258538



January 10, 2005

Mr. Nabil S. Fayoumi  
U. S. EPA - Region 5  
77 West Jackson Boulevard (SR-6J)  
Chicago, Illinois 60604-3590

**Re: Sauget Area 2 Site – October 3, 2002 Unilateral Administrative Order  
(UAO) Groundwater Operable Unit  
Monthly Report; December 1 - December 31, 2005 Reporting Period**

Dear Nabil:

Attached is the Monthly Report for the Sauget Area 2 Site October 3, 2002 Unilateral Administrative Order (UAO) - Groundwater Operable Unit. This submittal is in fulfillment of the monthly reporting requirements of the UAO, Section XII, paragraph 62, Progress Reports. This report is for the period December 1 – December 31, 2005.

Sincerely,

Steven D. Smith  
Project Coordinator

cc: Ken Bardo, - U. S. EPA  
Mayor Sauget - Sauget, IL  
Sandra Bron – IEPA  
Mike Coffey - USFWS  
Village of Sauget – c/o P. H. Weis & Associates (Attn: Brian Nelson)  
Mayor Frank Bergman – Cahokia  
L. Glen Kurowski - Monsanto  
Cathleen Bumb – Solutia  
Linda Tape - Husch & Eppenberger  
Richard Williams – Solutia

## **Sauget Area 2 Site - Sauget, Illinois**

### **October 3, 2002 UAO – Groundwater Operable Unit**

#### **Status Report**

**Date of Report:** January 10, 2005  
**Period Covered:** December 1 - December 31, 2005

#### **Work Performed During the Reporting Period**

##### **General Site Work**

- The Pre-Final Inspection was conducted on June 28, 2005. The only item that was identified as requiring completion before the Final Inspection was a pressure test on the discharge pipeline. That test was successfully completed on July 14<sup>th</sup>. On July 19<sup>th</sup>, the Agency was requested by e-mail to complete a Final Inspection and issue a Construction Complete notice. The Agency responded on August 30<sup>th</sup> requesting the submission of a Technical Memorandum comparing the historical groundwater discharges at the P-Chem Plant with the flow rates from the individual extraction wells. The comparison was intended to be used to determine the appropriate percentage flow difference that should trigger an alarm signaling a problem with the GMCS during system operation. That comparison was submitted on September 12<sup>th</sup>.
- Comments on the Operations and Maintenance Plan that was submitted to the Agency on June 21, 2005 were received on September 20<sup>th</sup>. Those comments are being reviewed and responses will be prepared and submitted.

##### **Groundwater Treatment**

- For the entire month of December, the system was operated to maintain the total pumping rate equal to the computed inflow rate, based on the average of the gradients measured in four pairs of piezometers placed immediately upgradient of the Site R landfill. With the exception of December 1<sup>st</sup> and 2<sup>nd</sup>, the control system was programmed to operate wells EW-1 and EW-3 at the same pumping rate, with well EW-2 shut down.
- Well EW-3 was shut down on December 1<sup>st</sup> and part of December 2<sup>nd</sup> to allow installation of a float controlled shut off switch that was installed in the valve vault adjacent to the wells as part of a new leak detection system. Identical

switches were installed in the other two valve vaults at the end of November. The leak detection system was tested on December 5<sup>th</sup> and was placed into operation that same day. While EW-3 was shut down, wells EW-1 and EW-2 pumped equal volumes of groundwater.

- The results for the first quarterly groundwater samples of the performance monitoring wells are being validated. However, the unvalidated results were submitted to the Agency on October 27<sup>th</sup>. The second quarterly groundwater samples, as well as the first semiannual sediment and surface water samples, were being analyzed during the reporting period.
- The Third set of quarterly groundwater samples were obtained during December.
- Water level and pumping data for the month of October are attached.

### **Schedule**

The Agency is currently reviewing various submissions to determine if construction is complete.

### **Submittals During Reporting Period**

There were no submittals during the reporting period.

### **Work Scheduled for Next Reporting Period**

- Continue pumping and treating groundwater using the new control program.
- Prepare a report summarizing the results of the Second Interim Operating Period and providing recommendations for the operation of the control system.
- Complete validation of the results of the first quarterly groundwater samples from the performance monitoring wells.
- Complete the analyses of the second quarterly groundwater samples from the performance monitoring wells and the first semiannual sediment and surface water samples and begin validating these results.
- Analyze the third quarterly set of groundwater samples from the performance monitoring wells.

## **PUMPING DATA**

		PUMPING RATE						GROUNDWATER LEVELS			
Date/Time		Computed Q	Total Q	EW-1 Q	EW-2 Q	EW-3 Q	SWL	PZ-5U	PZ-5D	Delta	PZ-6U
12/01/2005	Daily Average	686.24	684.08	341.98	191.95	150.16	379.25	384.83	384.07	-0.75	384.67
12/02/2005	Daily Average	659.18	652.24	304.74	207.60	148.54	379.83	384.82	384.12	-0.70	384.68
12/03/2005	Daily Average	637.57	636.57	318.30	0.00	318.28	379.95	384.92	384.23	-0.68	384.81
12/04/2005	Daily Average	649.22	651.77	325.31	1.00	325.46	380.02	384.79	384.11	-0.68	384.65
12/05/2005	Daily Average	629.28	624.72	311.53	0.28	312.91	379.95	384.82	384.15	-0.67	384.67
12/06/2005	Daily Average	663.05	660.68	330.35	0.00	330.33	379.39	384.76	384.05	-0.71	384.62
12/07/2005	Daily Average	671.23	671.20	335.48	0.26	335.47	379.04	384.69	383.95	-0.74	384.54
12/08/2005	Daily Average	774.13	770.23	385.01	0.17	385.05	376.70	384.58	383.70	-0.88	384.48
12/09/2005	Daily Average	782.16	784.15	392.09	0.00	392.05	377.02	384.49	383.59	-0.90	384.39
12/10/2005	Daily Average	791.65	790.42	395.19	0.00	395.23	376.66	384.45	383.55	-0.90	384.39
12/11/2005	Daily Average	784.57	786.20	393.11	0.00	393.09	377.35	384.34	383.48	-0.86	384.27
12/12/2005	Daily Average	762.37	761.90	380.96	0.00	380.94	378.14	384.31	383.46	-0.84	384.22
12/13/2005	Daily Average	718.83	721.18	359.92	1.26	360.00	378.59	384.32	383.48	-0.84	384.20
12/14/2005	Daily Average	673.31	674.14	337.09	0.00	337.05	379.13	384.35	383.62	-0.73	384.24
12/15/2005	Daily Average	653.07	654.33	327.07	0.26	327.01	379.32	384.36	383.64	-0.72	384.25
12/16/2005	Daily Average	668.39	668.05	334.04	0.00	334.01	379.26	384.29	383.57	-0.73	384.15
12/17/2005	Daily Average	663.50	664.21	332.13	0.00	332.08	379.19	384.27	383.54	-0.73	384.11
12/18/2005	Daily Average	680.98	678.96	339.49	0.00	339.47	378.89	384.18	383.46	-0.72	384.08
12/19/2005	Daily Average	684.70	684.26	342.14	0.00	342.12	378.41	384.19	383.44	-0.75	384.07
12/20/2005	Daily Average	693.71	695.43	347.60	0.23	347.60	378.12	384.16	383.38	-0.78	384.04
12/21/2005	Daily Average	644.57	646.14	323.08	0.00	323.07	378.87	384.18	383.44	-0.74	384.03
12/22/2005	Daily Average	643.33	643.69	321.85	0.00	321.84	379.34	384.21	383.52	-0.69	384.09
12/23/2005	Daily Average	632.15	632.00	316.01	0.00	315.99	379.46	384.25	383.57	-0.68	384.12
12/24/2005	Daily Average	602.26	602.51	301.26	0.00	301.25	380.34	384.32	383.70	-0.61	384.19
12/25/2005	Daily Average	579.04	580.04	290.02	0.00	290.03	380.64	384.31	383.71	-0.60	384.15
12/26/2005	Daily Average	585.81	584.83	292.43	0.00	292.40	379.92	384.30	383.67	-0.63	384.14
12/27/2005	Daily Average	629.37	630.03	315.02	0.00	315.00	379.08	384.33	383.65	-0.69	384.18
12/28/2005	Daily Average	623.52	623.89	311.95	0.00	311.94	379.49	384.27	383.59	-0.68	384.09
12/29/2005	Daily Average	586.56	587.64	293.83	0.00	293.81	380.05	384.25	383.62	-0.63	384.07
12/30/2005	Daily Average	583.70	583.02	291.51	0.00	291.51	379.90	384.31	383.68	-0.62	384.14
12/31/2005	Daily Average	584.72	585.77	292.90	0.00	292.86	379.95	384.25	383.63	-0.62	384.07

Date/Time		PZ-6D	Delta	PZ-7U	PZ-7D	Delta	PZ-8U	PZ-8D	Delta	PZ-1_OUTSIDE	PZ-1_INSIDE
12/01/2005	Daily Average	384.53	-0.14	384.90	384.33	-0.57	384.73	383.61	-1.12	380.97	382.30
12/02/2005	Daily Average	384.54	-0.14	384.91	384.35	-0.56	384.76	383.70	-1.06	381.22	382.34
12/03/2005	Daily Average	384.70	-0.11	384.99	384.42	-0.57	384.78	383.76	-1.01	381.36	382.68
12/04/2005	Daily Average	384.51	-0.14	384.81	384.24	-0.57	384.60	383.59	-1.01	381.26	382.37
12/05/2005	Daily Average	384.55	-0.12	384.85	384.29	-0.56	384.67	383.66	-1.01	381.29	382.54
12/06/2005	Daily Average	384.50	-0.13	384.81	384.22	-0.59	384.58	383.53	-1.05	380.99	382.34
12/07/2005	Daily Average	384.40	-0.14	384.72	384.14	-0.58	384.49	383.43	-1.06	380.75	382.21
12/08/2005	Daily Average	384.34	-0.14	384.72	384.09	-0.64	384.42	383.14	-1.28	379.69	382.02
12/09/2005	Daily Average	384.24	-0.15	384.59	383.97	-0.62	384.28	382.97	-1.31	379.67	381.78
12/10/2005	Daily Average	384.23	-0.16	384.62	384.00	-0.63	384.27	382.95	-1.33	379.54	381.86
12/11/2005	Daily Average	384.11	-0.17	384.50	383.88	-0.63	384.14	382.83	-1.32	379.68	381.66
12/12/2005	Daily Average	384.06	-0.15	384.41	383.79	-0.63	384.11	382.85	-1.26	380.04	381.60
12/13/2005	Daily Average	384.07	-0.13	384.39	383.80	-0.58	384.11	382.92	-1.19	380.28	381.73
12/14/2005	Daily Average	384.11	-0.13	384.44	383.87	-0.58	384.17	383.08	-1.10	380.57	381.93
12/15/2005	Daily Average	384.12	-0.13	384.41	383.85	-0.56	384.16	383.12	-1.05	380.67	381.97
12/16/2005	Daily Average	384.02	-0.13	384.34	383.75	-0.59	384.09	383.03	-1.06	380.61	381.79
12/17/2005	Daily Average	383.97	-0.14	384.28	383.70	-0.58	384.04	383.02	-1.02	380.57	381.75
12/18/2005	Daily Average	383.95	-0.13	384.27	383.67	-0.61	384.04	382.95	-1.09	380.41	381.71
12/19/2005	Daily Average	383.95	-0.12	384.27	383.68	-0.59	384.03	382.92	-1.11	380.22	381.74
12/20/2005	Daily Average	383.92	-0.12	384.25	383.66	-0.59	383.97	382.82	-1.15	380.01	381.71
12/21/2005	Daily Average	383.91	-0.11	384.20	383.67	-0.53	383.95	382.88	-1.07	380.35	381.79
12/22/2005	Daily Average	383.97	-0.13	384.29	383.71	-0.58	384.01	383.01	-1.01	380.66	381.90
12/23/2005	Daily Average	384.02	-0.10	384.31	383.74	-0.57	384.06	383.04	-1.02	380.73	381.98
12/24/2005	Daily Average	384.04	-0.15	384.31	383.77	-0.54	384.07	383.14	-0.93	381.18	382.07
12/25/2005	Daily Average	384.03	-0.12	384.29	383.75	-0.54	384.08	383.20	-0.88	381.35	382.04
12/26/2005	Daily Average	384.00	-0.14	384.27	383.75	-0.52	384.08	383.19	-0.89	381.08	382.06
12/27/2005	Daily Average	384.07	-0.11	384.37	383.82	-0.56	384.13	383.12	-1.01	380.65	382.08
12/28/2005	Daily Average	383.98	-0.11	384.26	383.72	-0.55	384.02	383.02	-1.01	380.74	381.94
12/29/2005	Daily Average	383.95	-0.11	384.21	383.68	-0.53	384.00	383.09	-0.91	381.04	381.93
12/30/2005	Daily Average	384.02	-0.12	384.28	383.76	-0.52	384.08	383.17	-0.91	381.03	382.08
12/31/2005	Daily Average	383.96	-0.11	384.22	383.69	-0.53	384.03	383.12	-0.91	381.01	381.97

Date/Time		PZ- 2_OUTSI DE	PZ- 2_INSIDE	PZ- 3_OUTSI DE	PZ- 3_INSIDE	PZ- 4_OUTSI DE	PZ- 4_INSIDE
12/01/2005	Daily Average	378.50	382.94	379.23	383.02	380.94	382.80
12/02/2005	Daily Average	378.97	382.98	379.70	383.07	381.19	382.94
12/03/2005	Daily Average	379.17	383.47	379.87	383.28	381.33	382.60
12/04/2005	Daily Average	379.12	383.21	379.81	382.98	381.19	382.30
12/05/2005	Daily Average	379.14	383.30	379.86	383.08	381.27	382.43
12/06/2005	Daily Average	378.61	383.21	379.34	382.99	380.94	382.30
12/07/2005	Daily Average	378.31	383.08	379.05	382.85	380.77	382.16
12/08/2005	Daily Average	376.30	382.95	377.16	382.78	379.80	382.00
12/09/2005	Daily Average	376.40	382.75	377.24	382.55	379.69	381.76
12/10/2005	Daily Average	376.19	382.84	377.03	382.66	379.60	381.87
12/11/2005	Daily Average	376.63	382.64	377.42	382.45	379.68	381.67
12/12/2005	Daily Average	377.35	382.60	378.10	382.36	380.01	381.61
12/13/2005	Daily Average	377.74	382.67	378.47	382.43	380.24	381.71
12/14/2005	Daily Average	378.24	382.82	378.97	382.64	380.51	381.93
12/15/2005	Daily Average	378.45	382.84	379.13	382.64	380.63	381.93
12/16/2005	Daily Average	378.36	382.69	379.07	382.47	380.54	381.77
12/17/2005	Daily Average	378.33	382.64	379.02	382.40	380.54	381.73
12/18/2005	Daily Average	378.05	382.59	378.76	382.39	380.40	381.71
12/19/2005	Daily Average	377.68	382.62	378.42	382.43	380.22	381.72
12/20/2005	Daily Average	377.37	382.60	378.11	382.42	380.03	381.69
12/21/2005	Daily Average	378.00	382.64	378.70	382.46	380.29	381.75
12/22/2005	Daily Average	378.45	382.73	379.15	382.54	380.59	381.84
12/23/2005	Daily Average	378.58	382.81	379.27	382.59	380.67	381.90
12/24/2005	Daily Average	379.35	382.82	379.98	382.66	381.03	381.94
12/25/2005	Daily Average	379.64	382.84	380.27	382.62	381.18	381.95
12/26/2005	Daily Average	379.08	382.82	379.74	382.61	380.98	381.94
12/27/2005	Daily Average	378.30	382.89	379.01	382.70	380.60	381.99
12/28/2005	Daily Average	378.57	382.76	379.23	382.53	380.62	381.82
12/29/2005	Daily Average	379.10	382.74	379.76	382.51	380.91	381.85
12/30/2005	Daily Average	379.00	382.87	379.68	382.67	380.93	381.99
12/31/2005	Daily Average	379.04	382.78	379.68	382.56	380.91	381.89